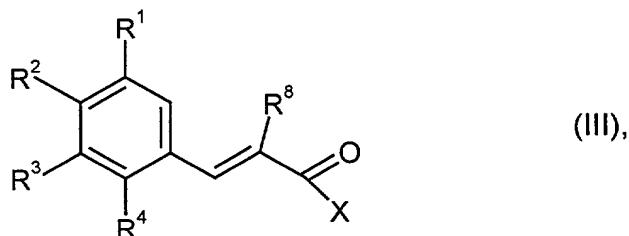


WHAT IS CLAIMED IS:

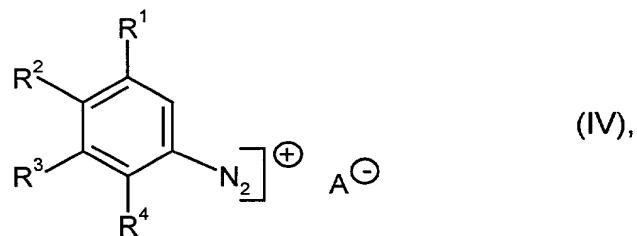
1. A process for preparing a polyhalogenated cinnamic acid or a cinnamic acid derivative having the formula (III)



5

wherein R¹, R², R³ and R⁴ are identical or different and in each case represent hydrogen, fluorine, chlorine or bromine, at least two of these radicals being other than hydrogen and

X represents OR⁵ or N(R⁶)(R⁷), where R⁵ represents hydrogen or
10 optionally substituted C₁-C₁₀-alkyl, optionally substituted phenyl or benzyl and R⁶ and R⁷ are identical or different and in each case represent optionally substituted C₁-C₁₀-alkyl and
R⁸ represents hydrogen, chlorine, bromine or optionally substituted C₁-C₁₀-alkyl,
15 the process comprising: reacting (1) a diazonium salt of the formula (IV)



20

wherein

R^1 , R^2 , R^3 and R^4 have the meaning indicated in formula (III) and
 A^\ominus represents an equivalent of halide, hydrogensulfate, nitrate,
5 acetate or tetrafluoroborate ions or $\frac{1}{2}$ an equivalent of sulfate ions or $\frac{1}{3}$ an
equivalent of phosphate ions,
with (2) an acrylic acid or an acrylic acid derivative of the formula
(V)



10

wherein

X has the meaning indicated in formula (III) and
 R^8 represents hydrogen, chlorine, bromine or optionally
substituted C_1 - C_{10} -alkyl,

15

in the presence of a homogeneous, palladium-containing catalyst at
a temperature ranging from about -5 to about +100°C.

2. The process according to Claim 1, wherein

20

R^1 represents hydrogen or chlorine,
 R^2 represents hydrogen, fluorine, chlorine or bromine,
 R^3 represents hydrogen or chlorine and
 R^4 represents fluorine or chlorine, at least one of the radicals R^1 ,
 R^2 and R^3 being other than hydrogen,
 R^5 represents hydrogen, methyl, ethyl, isopropyl or benzyl,
 R^6 and R^7 represent methyl or ethyl,
 R^8 represents hydrogen or methyl and

A^\ominus represents an equivalent of chloride, hydrogensulfate or acetate
or $\frac{1}{2}$ an equivalent of sulfate.

30

3. The process according to Claim 1, wherein, the palladium-
containing catalyst is selected from the group consisting of $PdCl_2$, $PdBr_2$,
 $Pd(NO_3)_2$, H_2PdCl_4 , $Pd(CH_3COO)_2$, Na_2PdCl_4 , K_2PdCl_4 , Pd(II) acetylacet-

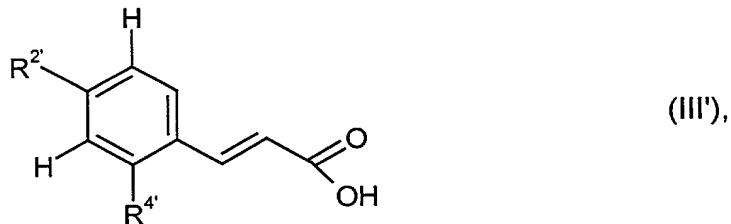
tonate, tetra-(trisphenylphosphine)Pd, tris-(dibenzylidene-acetone)Pd₂ and mixtures thereof and the palladium-containing catalyst is used in an amount ranging from about 0.001 to about 10 mol%, based on the diazonium salt of the formula (IV).

5 4. The process according to Claim 1, wherein the diazonium salt of the formula (IV) is prepared from a corresponding aniline by reaction with sodium nitrite in acidic, aqueous solution or by reaction with an alkyl nitrite in acidic methanol and the salt is employed in the form of a reaction mixture obtained during its preparation.

10 5. The process according to Claim 1, wherein from about 0.5 to about 2 moles of acrylic acid or acrylic acid derivatives of the formula (V) are employed, per mole of diazonium salt of the formula (IV).

6. The process according to Claim 1, wherein the process is carried out without a base.

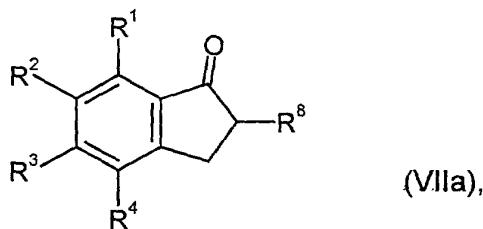
15 7. A polyhalogenated cinnamic acid or a cinnamic acid derivative having the formula (III'):



wherein

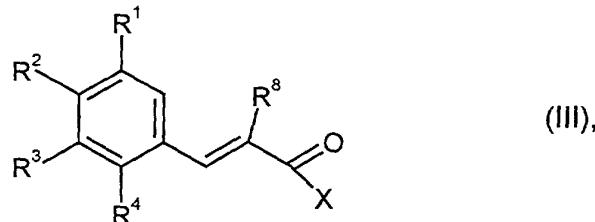
20 R² represents chlorine and R^{4'} represents fluorine, or
R² represents fluorine and R^{4'} represents chlorine.

8. A method for preparing an indanone derivative of the formula (VIIa):



wherein

R¹, R², R³ and R⁴ are identical or different and in each case represent hydrogen, fluorine, chlorine or bromine, at least two of these 5 radicals being other than hydrogen and
R⁸ represents hydrogen, chlorine, bromine or optionally substituted C₁-C₁₀-alkyl,
the method comprising:
(a) hydrogenating a polyhalogenated cinnamic acid or cinnamic
10 acid derivative having the formula (III)

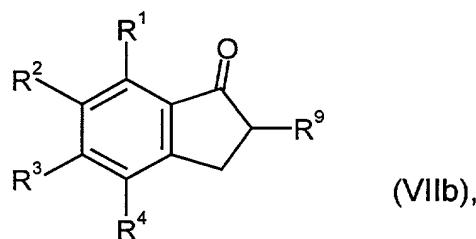


wherein R¹, R², R³, R⁴ and R⁸ have the indicated in formula (VIIa) above and

15 X represents OR⁵ or N(R⁶)(R⁷), where R⁵ represents hydrogen or optionally substituted C₁-C₁₀-alkyl, optionally substituted phenyl or benzyl and R⁶ and R⁷ are identical or different and in each case represent optionally substituted C₁-C₁₀-alkyl and
R⁸ represents hydrogen, chlorine, bromine or optionally
20 substituted C₁-C₁₀-alkyl,
and

(b) cyclizing the hydrogenated cinnamic acid or cinnamic acid derivative formed in step (a), thereby forming the indanone derivative of the formula (VIIa).

5 9. A method for preparing an indanone derivative of the formula (VIIb)



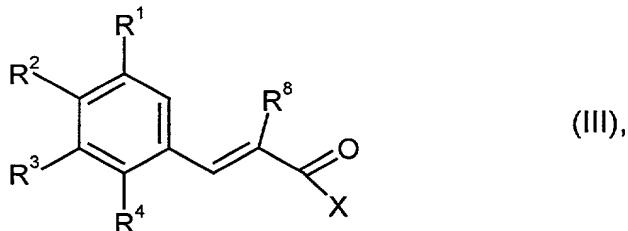
wherein R¹, R², R³ and R⁴ are identical or different and in each case represent hydrogen, fluorine, chlorine or bromine, at least two of these

10 radicals being other than hydrogen and

R⁹ represents COOH, CONH₂ or COOR¹⁰, wherein R¹ denotes C₁-C₄-alkyl,

the method comprising:

15 (a) hydrogenating a polyhalogenated cinnamic acid or cinnamic acid derivative having the formula (III)



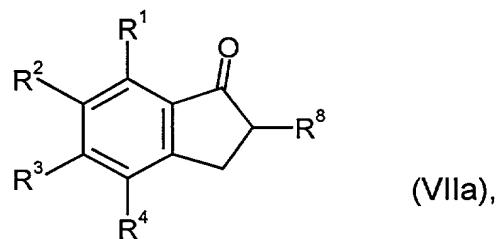
wherein R¹, R², R³, R⁴ are identical or different and in each case represent hydrogen, fluorine, chlorine or bromine, at least two of these radicals being

20 other than hydrogen and X represents OR⁵ or N(R⁶)(R⁷), where

R⁵ represents hydrogen or optionally substituted C₁-C₁₀-alkyl, optionally substituted phenyl or benzyl and R⁶ and R⁷ are identical or different and in

each case represent optionally substituted C₁-C₁₀-alkyl and R⁸ represents hydrogen, chlorine or bromine, and

(b) cyclizing the hydrogenated cinnamic acid or cinnamic acid
 5 derivative formed in step (a), thereby forming the indanone derivative of the formula (VIIa)



wherein R¹, R², R³, R⁴ and R⁸ have the meaning indicated in formula (III)
 above and

10 (c) converting the indanone derivative of the formula (VIIa),
 in case of R⁸ representing hydrogen after halogenation, by a palladium-catalysed carbonylation reaction with carbon monoxide and a suitable nucleophile, and thereby forming the indanone derivative of the formula
 15 (VIIb).